

TUTINAS, T.

Semielectronic transistor switchboard. Przegl telekom 34 no.8:258
Ag '61.

TUTINAS, Tadeusz, mgr inz.

Structural changes in the design of memory circuits of telephone exchanges. Przegl telekom 34 no.7:207-213 JI '62.

TUTINAS, Tadeusz [deceased]; KUREK, Tadeusz; SURWILLO, Tadeusz

Electronic signal generator for large telephone exchanges.
Przegl telekom 35 no.5/6:133-140 My-Je '63.

"APPROVED FOR RELEASE: 04/03/2001

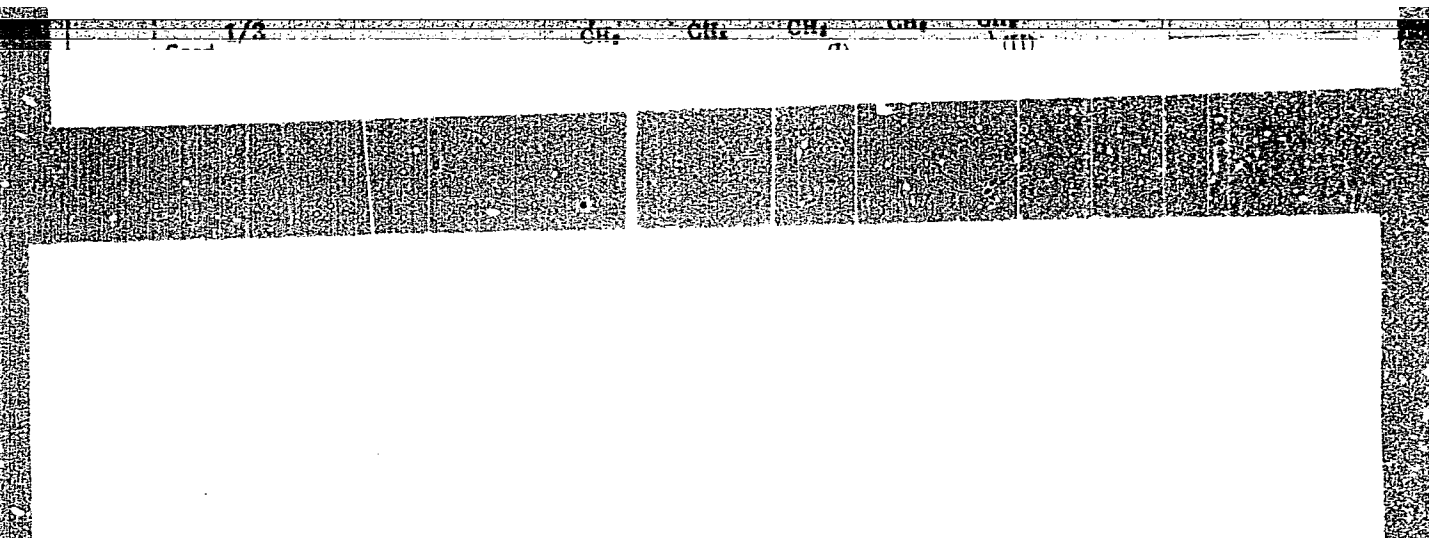
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by the author.
a formula and 1 figure.

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CA

1/P

The effect of the thyroid gland upon the secretion and cholesterol content of bile. V. P. Bezuglov and L. M. Tutkevich. *Arch. sci. biol.* (U. S. S. R.) 33, 411-16 (in German 418)(1933).—Dogs with biliary fistulas were thyroidectomized, treated with tetrahydro- β -naphthylamine to stimulate the sympathetic nervous system and with "synergen" to paralyze it, and thyroxine was administered at various stages. The output of bile and its cholesterol content were detd. Thyroxine decreases the secretion of bile and excretion of cholesterol. These were increased by thyroidectomy. The thyroid acts upon liver cells as well as through the sympathetic nerves. The thyroid gland is a powerful regulator of cholesterol metabolism.

W A Perlberg

ASD SEA METEOROLOGICAL LITERATURE CLASSIFICATION

L.M.
TUTKEVICH, kand.med.nauk

Study results of the intensivity of growth of tumor tissue stroma outside
of the organism. Vopr.klin.lech.zlok. novobraz., Riga 1:97-109 1953

(NEOPLASMS, experimental

intensivity of growth of tumor tissue stroma outside of
organism

(GROWTH

intensivity of tumor tissue stroma outside of organism

TUTKEVICH, L.M., kand.med.nauk

Results of investigation of the intensity of growth of tumoral stroma
in vitro. Vopr.klin. lech.slok. novoobraz., Riga 2:129-142 1955

1. Sektor morfofiziologii (zav. - prof. doktor P.Ya. Gerke) Instituta
eksperimental'noy meditsiny AN Latvyskoy SSR (dir. - prof. doktor
P.Ya. Gerke).

(TISSUE CULTURE,

cultivation of tumor tissue, growth rate (Rus))

(NEOPLASMS, experimental

tissue culture, growth rate (Rus))

TUTKEVICH, V.S.

Lead poisoning in everyday life. Vrach.delo no.2:187-189
F '60. (MIRA 13:6)

1. Terapevticheskoye otdeleniye (sav. - V.S. Tutkevich) Shost-
kinskoy bol'nitsy No.1 Sumskoy oblasti.
(LEAD POISONING)

BC 174

PROCESSING AND PROPERTIES INDEX

COMMON ELEMENTS

COMMON VARIANTS INDEX

ASR-51A METALLURGICAL LITERATURE CLASSIFICATION

SECTION	SECTION WITH ONLY ONE	SECTION	SECTION WITH ONLY ONE
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57	58	59	60
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73	74	75	76
77	78	79	80
81	82	83	84
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89	90	91	92
93	94	95	96
97	98	99	100

TUTUBINA, N. V.

"The tick-borne spotted fever in the Tuva Autonomous Oblast." p. 111

Desyatoye soveshchaniye po parazitologicheskim problemam i zoonoznym boleznyam. 22-29 Okt'yabrya 1959 g. (Tenth Conference on Parasitological Problems and Diseases with Natural Foci 22-29 October 1959), Moscow-Leningrad, 1959, Academy of Medical Sciences USSR and Academy of Sciences USSR, No. 1 261pp.

Inst. of Epidemiology and Microbiology, AMS USSR

Moscow

BABKO, Anatoliy Kirillovich; KLEYNER, K.Ye., redaktor; TUTKOV, B.S., redaktor; KRYLOVSKAYA, N.S., tekhnicheskii redaktor.

[Physical and chemical analysis of complex compounds in solutions; optical method] Fiziko-khimicheskii analiz kompleksnykh soedinenii v rastvorakh; opticheskii method. Kiev, Izd-vo Akademii nauk USSR, 1955. 325 p. (MLRA 9:5)

1.Chlen-korrespondent AN USSR (for Babko)
(Compounds, Complex) (Chemistry, Analytical) (Solution (Chemistry))

L 00801-67 EWT(m)/EMP(t)/ETI IJP(c) JD

ACC NR: AP6026373 (A) SOURCE CODE: UR/0075/66/021/005/0564/0567

AUTHOR: Tutkuvene, V. Ye. -- Tutkuvienė, V. E.; Ramanauskas, E. I. --
Ramanauskas, E. J. 23

ORG: Vilnius State University im. V. Kapsukas (Vil'nyusskiy gosudarstvennyy universitet)

TITLE: Extraction-photometric determination of microamounts of tellurium by a tetramethylthiuram disulfide 27

SOURCE: Zhurnal analiticheskoy khimii, v. 21, no. 5, 1966, 564-567

TOPIC TAGS: tellurium, selenium, ion effect, thiuram

ABSTRACT: An extraction-photometric method has been suggested for determining tellurium with tetramethylthiuram disulfide (thiuram). Optimum conditions have been found for formation of the complex. The molar ratios of the interaction of tellurium with the reagent have been established. Beer's law is valid within 5--150 $\mu\text{g/ml}$ of tellurium in 5 ml. A method has been developed for separating tellurium from selenium. The experimental error for determining of tellurium is

Card 1/2

UDC: 543.70

1 30802-55

ACC NR: AP6026373

6%. The effect of extraneous ions was studied. Orig. art. has: 5 figures and
1 table. [Based on authors' abstract] [NT]

SUB CODE: 07/ SUBM DATE: 26Jun65/ ORIG REF: 003/ OTH REF: 003/

Card 2/2 mis

TUTLAYANTS, A.

Our corrections. Fin.SSSR 20 no.3:75 № '59. (MIRA 12:?)

1. Zamestitel' upravlyayushchego Stalinskoy kontoroy Prombanka.
(Construction industry--Finance)

TUTLAYANTS, A.

New procedure for checking title papers. Fin. SSSR 20 no.1:81-82
Ja '59. (MIRA 12:2)

1. Zamestitel' upravlyayushchego Stalinskoy kontoroy Prombanka.
(Stalino Province--Construction industry)

TUTINDZHAN, T. A., ed.

Pakhta-Aral in the 4th decisive year.

Moskva, Sel'kolkhozgiz, 1932.

151 p. (Vsesoiuznyi institut "Nisi")

TUTNOV, A.

~~1954~~
They turned the factory grounds into a garden. Okhr.truda i
sots.strakh. no.5:78 N '58. (MIRA 12:1)

1. Glavnyy inzh.zavoda No.5 Glavtonnel'metrostroya.
(Landscape gardening)

SOV/118-59-9-17/20

28(1)

AUTHOR: Tutnov, A.I., Engineer

TITLE: A Universal Hydraulic Loader

PERIODICAL: Mekhanizatsiya i avtomatizatsiya proizvodstva, 1959,
Nr. 9, pp 62-64 (USSR)

ABSTRACT: This brief article describes a universal hydraulic loader built in Great Britain. There are 5 photographs.

Card 1/1

TUTNOV, A.I.

Powered shield units for the building of collecting tunnels.
Trudy TSNIIPodzemshakhtstroia no.3:120-135 '64. (MIRA 18:9)

TUTNOI, .".

Introduction of the "Temp" equipment ast for working little
depth mines. Biul. tekhn.-ekon. inform. Gos. nauch.-issl. inst.
nauch. i tekhn. inform. 18 no.7:9-10 J1 '65. (MIRA 18:9)

TUTNOV, A.I.

Handwritten text, likely a signature or name, followed by a date and possibly a location or reference number. The text is partially obscured by a large white rectangular area.

TUTNOV, A.I., inzh.

Vibroelectric conveying machinery. Bezop. trda v prom. 5 no. 2:33
F '61. (MIRA 14:2)

(Great Britain--Conveying machinery)

TUTNOV, A. I., inzh.

Pipe-bending machines. Stroi. i dor. mashinostr. 5 no.8:37 Ag '60.
(MIRA 13:8)

(Pipe bending—Equipment and supplies)

TUTNOV, A.I., inzh.

Fork lift carriers in warehouses. Mashinostroitel' no.3:43
Mr '60. (MIRA 13:6)
(Conveying machinery) (Warehouses)

TUTNOV, A.I., inzh.

Flaw detector for nonferrous-metal pipes. Bezop.truda v prom.

5 no.9:29 S '61.

(MIRA 14:10)

(Pipe---Testing)

TUTNOV, A.I., inzh.

Tunneling equipment. Transp. stroi. 10 no.10:58-59 0 '60.

(Tunneling--Equipment and supplies)

(MIRA 13:10)

LUK'YANOV, Viktor Georgiyevich; AKIMOCHKIN, Petr Vikulovich;
TUTNOV, A.O., otv. red.; MELIKHOV, I.D., red.izd-va;
VOLDYREVA, Z.A., tekhn. red.

[Practice in and prospects for using equipment in placing
supports in horizontal workings] Opyt i perspektivy prime-
nenia krepukladchikov v gorizonta'l'nykh gorn'nykh vyrabot-
kakh. Moskva, Gosgortekhzdat, 1963. 87 p. (MIRA 16:6)
(Mine timbering) (Reinforced concrete construction)

CA

11A

Photodynamic action of erythrosin on the contractile muscle proteins. D. L. Rubinshtein, L. T. Tutochkina, and R. D. Grishchenko (Inst. Biol. Med. Chem., Acad. Med. Sci. U.S.S.R., Moscow). *Doklady Akad. Nauk S.S.S.R.* 76, 243-6 (1961).—While neither light (elec. bulb) nor erythrosin alone show any effect on solns. of myosin, actin, or actomyosin, illumination of the latter substances in presence of the dye leads to significant changes. Actomyosin solns. increase in viscosity to a gel, which may be liquefied by shaking and then reformed; at the same time actomyosin also loses its hydrophilic properties. The increase of viscosity and the dehydration are independent processes. Increased concn. of the dye leads to shorter irradiation needed for gelling (hyperbolic curve); increase of protein concn. leads to increase of irradiation period for gelling. Myosin undergoes viscosity increase to gel formation, but this is not liquefied on shaking. Actin undergoes loss of viscosity and loss of ability to form a complex with myosin. Myosin loses its adenosinetriphosphatase activity. Viscosity loss by actin is not caused by change from fibrillar to globular form. The changes in actin and myosin are irreversible as is the dehydration of actomyosin. The gelling action of actomyosin is similar to that caused by adenosinetriphosphate (1), which in this case is the energy supply, whereas light energy may be substituted for the 1 energy. It is suggested that SH groups in myosin participate in the gelling. Physiol. significance of the results is discussed. G. M. Komolapoff

PETROVA, N.D.; POLIKARPOVA, L.I.; SBITNEVA, M.F.; TUTCHKINA, L.T.;
SHIKHODYROV, V.V.

Protective effect of chondroitinsulfate in lethal-dose x-irradiation
[with summary in English]. Med.rad. 3 no.4:34-41 J1-Ag '58.
(MIRA 12:3)

(CHONDROITIN SULFATE, effects,
in x-ray lethal-dose irradiated animals (Rus))
(ROENTGEN RAYS, effects,
lethal-dose, eff. of chondroitin sulfate in
animals (Rus))

ACCESSION NR: AT4042653

S/0000/63/000/000/0056/0060

AUTHOR: Baranov, V. I.; Gyurdzhian, A. A.; Lomova, M. A.; Radkevich, L. A.;
Tutochkina, L. T.; Fedorova, T. A.; Furayeva, L. P.; Khn'chev, S. S.; Artem'yeva,
N. S.

TITLE: The effect of gravity on the development of organisms

SOURCE: Konferentsiya po aviatsionnoy i kosmicheskoy meditsine, 1963.
Aviatsionnaya i kosmicheskaya meditsina (Aviation and space medicine); materialy
konferentsii. Moscow, 1963, 56-60

TOPIC TAGS: gravity, centrifuge, organism development, physiological function,
rat, chronic centrifugation, blood composition, urine composition, Coriolis
acceleration

ABSTRACT: In this investigation, Baranov and his co-workers designed a centrifuge
for small animals with an arm radius of 135 cm which could be regulated to produce
artificial gravitational fields of from 4 to 5 g. The centrifuge was arranged
in such a way that the arms and cages at the end of the arms would simultaneously
rotate around their axes producing Coriolis accelerations. A single control panel

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ACCESSION NR: AT4042653

regulated the photography and illumination of cage interiors, automatic feeding of the animals, and the revolving rate of the centrifuge. It was possible to record five separate physiological functions from some specially prepared animals. Experiments were conducted on white rats, commencing on the first day after birth and continuing for 25 days. Litters consisting of 200 animals were divided into experimental and control groups. All animals were born at approximately the same time. Experimental animals were subjected to accelerations ranging from 1.5 to 3 g for periods of from 4 to 6 hours, 6 days per week. The weighing of all animals took place every three days as did biochemical assays of the blood and urine, tests of vestibular activity, and the determination of the time of sexual maturity in female animals. At the termination of the experiment, a comparative test of the response of both experimental and control animals to brief accelerations of 5, 10 and 20 g was conducted. After 20--25 days, the body weight of chronically centrifuged animals was 60--80% that of the controls. The composition of erythrocytes (89.6%), leukocytes (93.4%), and hemoglobin (99.1%) in the blood of experimental animals with respect to control animals reflected a slightly anemic condition. While blood albumin in experimental animals was somewhat lower than in the controls, serum mucoid composition was higher, indicating a change of dystrophic character. Urine assays of experimental animals showed that the levels of Diche-positive substance (48%), nitrogen (62%), creatine (31%),

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and creatinine (60%) were lower than in the control animals. Finally, the estral cycle of experimental females was significantly altered, though one female gave normal birth to young. In the second investigation, control animals exposed to brief accelerations of 5 g showed noticeable increases in the level of non-esterified fatty acids, decreases in serum mucoid composition, and increases in the albumin-globulin ration. However, at 20 g there was an increase in serum mucoid composition and a decrease in the albumin-globulin ration. Biochemical variations in experimental animals subjected to the same accelerations were insignificant. The authors conclude that gravity plays a complex role in the physiological processes of the developing organism but that the true mechanism of this role is far from being understood.

ASSOCIATION: none

SUBMITTED: 27Sep63

ENCL: 00

SUB CODE: LS

NO REF SOV: 000

OTHER: 000

Card 3/3

TUTOCHKINA, L.T., PETROVA, N.D., (USSR)

"Low Molecular Acid Serum Mucoids on Exposed to
Strontium-90."

Report presented at the 5th Int'l. Biochemistry Congress,
Moscow, 10-16 1961.

GYURDZHIAN, A.A.; DEMIN, N.N.; TUTOCHKIN, L.T.; USPENSKAYA, M.S.;
FEDOROVA, T.A.

Biochemical investigation of the blood and urea of animals after
the flight in a spaceship. Probl.kosm.biol. 1:152-160 '62.
(MIRA 15:12)

(BLOOD--ANALYSIS AND CHEMISTRY)
(SPACE FLIGHT--PHYSIOLOGICAL EFFECT)
(URINE--ANALYSIS AND PATHOLOGY)

TUTOCHKINA, L.T.

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37203
S/560/61/000/011/009/012
E027/635

AUTHORS:

Gyurdzhian, A.A., Demin, N.N., Korneyeva, N.V.,
L'vova, T.S., Tutochkina, L.T., Uspenskaya, M.S.,
Fedorova, T.A.

TITLE:

Some aspects of metabolism in animals which have
undergone a space flight

SOURCE:

Akademiya nauk SSR. Iskusstvennyye sputniki Zemli.
no. 11. Moscow, 1961. Rezul'taty nauchnykh
issledovaniy, provedennykh vo vremya poletov vtorogo
i tret'yego kosmicheskikh korabley-sputnikov, 78 - 86

TEXT:

The authors have studied biochemical processes in dogs
during training and after flights in rockets and satellite vehicles
particular attention being devoted to those processes which are
affected by stress conditions and by exposure to ionizing
radiation. The dogs were first adapted to space flight conditions,
in which they were exposed to vibrations of frequency 70 cycles and
amplitude 0.4 mm continued for up to 12 minutes, and to

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Some aspects of ---

accelerations of 6-9 g continued for 5 - 12 minutes. Eighteen dogs were studied in all, of which five made space flights in 1958-59 while thirteen remained on the ground. The dogs Belka and Strelka were investigated before the flight and 2, 6, 13, 23, 25 and 32 days afterwards. One dog (Otvazhnaya) made five flights. Two rats and five mice of the C57 line were also studied after a flight in the second satellite. In the dogs, determinations were made of the fractional composition of the serum proteins, the serum mucoids, pseudocholinesterase activity, and the content of free and bound 21-hydroxy-20-kesteroids in the urine. During the training period marked fluctuations occurred in the serum proteins, both in the animals which made space flights and in the others. After acceleration in the centrifuge a rise in cholinesterase activity occurred, reaching a peak after two days and then declining, and there was also a rise in the content of serum mucoids and a fall in the total protein content of the serum. Similar, but less marked effects, were observed after exposure to vibration. A rise in serum mucoids occurred two to six days

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Some aspects of ---

after return from a space flight, and after six days there was a rise in the total serum proteins. No definite changes were observed in cholinesterase activity. From a consideration of the results three states could be distinguished in the animals in response to training and space flights: (1) activation of functions; (2) a dystrophic condition, and (3) a reaction of stress type characterized by a reversible inhibition of functions. In investigations of the urine no particular changes were noted in the volume or the specific gravity during training or after a space flight. A decrease in the content of deoxycytidine was observed in Belka and an increase in Strelka. After exposure to vibration and acceleration an increase of deoxythymidine and Dische-positive substances in the urine was observed in Otavazhnaya. One month later the levels of both had returned to normal. A fall in the Dische-positive substances to 50% of the control values was found in the urine of five mice five days after a space flight in the second satellite. It was concluded that

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Some aspects of ---

the results indicated the occurrence of disturbances in the metabolism of deoxyribonucleic acid after a space flight, but that these disturbances were temporary and reversible. The responses of the animals resembled a stress reaction rather than radiation damage. There are 6 figures and 2 tables.

SUBMITTED: May 23, 1961

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ACCESSION NR: AT4042717

8/0000/63/000/000/0456/0460

AUTHOR: Fedorova, T. A.; Tutochkina, L. T.; Uspenskaya, M. S.; Skurikhina, M. M.;
Fedorov, Ye. A.

TITLE: Shifts in some metabolic indices in soviet cosmonauts

SOURCE: Konferentsiya po aviatsionnoy i kosmicheskoy meditsine, 1963.
Aviatsionnaya i kosmicheskaya meditsina (Aviation and space medicine); materialy
konferentsii. Moscow, 1963, 456-460

TOPIC TAGS: metabolic index, cosmonaut training, blood analysis, urine analysis,
hydrocorticosteroid, biochemical testing, Dische-positive substance

ABSTRACT: Biochemical studies of the blood and urine of cosmonauts, conducted
after training sessions and rest periods before space flight, and for several days
following space flight, included the following: 1) refractometer determination of
total blood serum protein; 2) determination of the relative protein fraction con-
tent of blood serum by paper electrophoresis; 3) concentration in the serum of
low-molecular-weight acid mucoids; 4) study of the nonspecific cholinesterase
activity in the blood serum; 5) determination of the amounts of Dische-positive
substances present in the urine; 6) viscosimetric determination of urine deoxyribo-

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ACCESSION NR: AT4042717

nuclease activity; 7) determination of the amount of free and bound 21-hydroxy-20-ketosteroids in the urine; 8) determination of the amount of mucoids present in the urine (after 5-day dialysis); and 9) determination of the amount of creatine and creatinine in the urine. In addition, ordinary clinical studies of peripheral blood and urine were made before and after flight. The most characteristic pre-flight blood serum composition change noted during training sessions was a slight increase in relative albumin and some decrease in Beta- and Gamma-globulin. This reaction is normally observed in athletes during training and contests and is connected with increased physical strain and emotional tension. Cosmonaut training occasionally produced still stronger effects (Nikolayev and Popovich, 1 Jun 62). During rest periods, serum protein composition and mucoid content usually returned to normal. After flight total protein and serum mucoid levels increased slightly in the first day after landing. No real change in cholinesterase activity was noted. Peripheral blood studies revealed no abnormality in Gagarin either before or after flight. Titov, Nikolayev, and Popovich displayed leukocytosis on the day of landing. In addition, Nikolayev and Popovich showed lymphopenia and a tendency to eosinopenia. These shifts which were of brief duration, are characteristic of the "stress" reaction. Preflight urinalysis showed no abnormalities. Postflight urinalysis showed turbidity, hyaline casts (8 to 15 in the preparation), and uric

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acid crystals in the urine of Nikolayev and Popovich. Protein traces and occasional erythrocytes and leukocytes were also found in the urine of Popovich. These were probably the result of reversible changes in the renal filter such as are sometimes observed following physical strain or strong emotion. Changes in urinary excretion of Dische-positive substances mostly failed to correlate with changes in the rate of urinary output. Urine 24-hr volumes, which before flight varied in the different cosmonauts from considerably below normal to somewhat above, increased by 25% to 75% in all cosmonauts after return from space flight, then returned to normal. Free hydrocorticosteroids were slightly increased by training sessions but returned to normal afterwards. After flight, free hydrocorticosteroids increased to 2.5 to 3.5 times the normal level. In Gagarin the increase was 10.7 times normal. Glucuronic acid bound steroids remained within normal limits except for Nikolayev, in whom they were somewhat increased. Steroid increase in the urine after space flight indicates functional stimulation of the adrenal cortex and may be regarded as an adaptive reaction of the body to various space-flight and landing factors. Return to normal even in the case (Gagarin) of a great increase indicates that the effects of these factors did not exceed the physiological capabilities of the adrenal glands. Mucoprotein increase during the training period is attributed to fatigue; it is normal under various circumstances, particularly heavy muscular labor.

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After flight the mucoprotein urine levels were either normal or close to normal. Creatine and creatinine determinations were performed only in the case of Nikolayev and Popovich. On the first day after return from flight, both showed a considerable increase in the amount of creatinine, which attained values of 2.01 and 2.60 g for the 24-hr urine respectively. The creatine content remained normal (traces only). Creatinine levels had returned to normal in both cases 14 days after landing. Increased creatinine levels reflect increased physical loads on the organism and increased muscular effort, with a consequent increase in the catabolism of muscle protein. Generally, the biochemical changes observed in the cosmonauts during training for space flight and after landing indicate the occurrence of reversible and short-term metabolic changes characteristic of a brief stress reaction in the organism.

ASSOCIATION: none

SUBMITTED: 27Sep63

ENCL: 00

SUB CODE: 1S

NO REF SOV: 000

OTHER: 000

Card 4/4

ACCESSION NR: AT4037684

8/2865/64/003/000/0145/0158

AUTHOR: Fedorova, T. A.; Tutochkina, L. T.; Uspenskaya, M. S.; Skurikhina, M. M.; Fedorov, Ye. A.

TITLE: Some metabolic indices in cosmonauts

SOURCE: AN SSSR. Otdeleniye biologicheskikh nauk. Problemy* kosmicheskoy biologii, v. 3, 1964, 145-158

TOPIC TAGS: manned space flight, nutrition, metabolism, hematology, urine, biochemistry

ABSTRACT: Biochemical analyses of the blood and urine of cosmonauts were made during training periods, after rest periods, and before and immediately after space flight. During periods of intensive training, space pilots revealed changes in the protein composition of their blood serum: a small increase in the relative albumin content and a decrease in the content of α_2 , β , and gamma globulins and mucoids, which is typical of athletes in training and is due to increased physical loads and emotional strain. During intensive training, the urine showed a decrease in Dische-positive substances, a decrease in the enzymic activity of acid deoxyribonuclease, an increase in the amount of adrenal hormones

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ACCESSION NR: AT4037684

(free 21-oxy-20 ketocorticosteroids), and, in some cases, mucoids. During rest periods, the levels of all these substances in blood and urine usually returned to normal. After space flight, the total protein content in the blood of cosmonauts increased to normal levels or exceeded them, and during longer flights (three and four days) the level of serum mucoids somewhat increased. At the same time, the content of free 21-oxy-20 ketocorticosteroids in the urine rose sharply as the level of steroids coupled with glucuronic acid increased to the upper normal level. The amount of creatinine increased distinctly also. Dische-positive substances and the activity of acid deoxyribonuclease in urine decreased. The changes in the content of Dische-positive substances and the activity of acid deoxyribonuclease in urine during the pre- and the post-start periods appeared to be opposite to those occurring under the action of ionizing radiation. All biochemical shifts discovered in the organisms of space pilots during their preparation for space flight and after their return indicate that some metabolic changes are reversible and rapidly returned to normal.

ASSOCIATION: none

2/3

Card

MEKLER, M.M., .otv.red.; SHUROV, S.I., red.; BASHLAVINA, G.N., red.;
 VORONINA, A.N., red.; GUREVICH, I.V., red.; ZASLAVSKIY, I.I., red.;
 KOZLOV, F.M., red.; LARIN, D.A., red.; LYALIKOV, N.I., red.;
 MAMAYEV, I.I., red.; NIKISHOV, M.I., red.; RAUSH, V.A., red.;
 SAMOYLOV, I.I., red.; SLADKOVA, Ye.A., red.; STROYEV, K.F., red.;
 SCHASTNEV, P.N., red.; TUTOCHKINA, V.A., red.; ERDELI, V.G., red.;
 BUSHUYEVA, M.P., red.kart; DYUZHTEVA, A.M., red.kart; KROTKOV, B.S.,
 red.kart; MESYATSEVA, L.N., red.kart; PEKHOVA, Z.P., red.kart;
 POLYANSKAYA, L.A., red.kart; SAFRONOVA, V.A., red.kart; FEDOTOVA,
 N.I., red.kart; FETISOVA, N.P., red.kart; CHERNYSHEVA, L.N., red.kart;
 BUKHANOVA, N.I., tekhn.red.; KUZNETSOVA, O.L., tekhn.red.; NIKOLAYEVA,
 I.N., tekhn.red.

[Atlas of the U.S.S.R. for the secondary school; course in economic geo-
 graphy] Atlas SSSR dlia srednei shkoly; kurs ekonomicheskoi geografii.
 Moskva, Glav.uprav.geodez. i kartografii M-va geol.i okhrany nedr SSSR,
 1960. 50 p. (MIRA 13:12)
 (Geography, Economic--Maps)

SEMENOV, A.I., otv.red.; FILIPPOV, Yu.V., prof., doktor tekhn.nauk, red.;
 BASHLAVIN, V.A., kand.tekhn.nauk, red.; VOYNOVA, V.V., red.; GURARI,
 Ye.L., kand.ekonon.nauk, red.; GUREVICH, I.V., red.; ZHIV, I.S., red.;
 ZARUTSKAYA, I.P., red.; ZASLAVSKIY, I.I., red.; KOZLOV, F.M., red.;
 NIKISHOV, M.I., kand.geograf.nauk, red.; SADCHIKOV, S.F., red.;
 TIKHOMIROV, D.I., red.; TUTOCHKINA, V.A., red.; BALANTSEVA, I.A., red.
 kart; BOGDANOVA, L.A., red.kart; BOCHAROVA, I.L., red.kart; VENEVTSEVA,
 G.P., red.kart; VOLKOVA, A.P., red.kart; GOSTEVA, N.A., red.kart;
 YEFIMOVA, G.N., red.kart; ZHIV, D.I., red.kart; KRAVCHENKO, A.V., red.
 kart; KUBRIKOVA, N.S., red.kart; KUZNETSOVA, N.A., red.kart; KURSAKOVA,
 I.V., red.kart; LOBZOVA, N.A., red.kart; MERTSALOVA, L.M., red.kart;
 MOSTMAN, S.L., red.kart; PANFILOVA, M.V., red.kart; SEMENOVA, V.D.,
 red.kart; SMIRNOVA, T.N., red.kart; TERESHKOVA, V.S., red.kart;
 FEDOROVSKAYA, G.P., red.kart; FETISOVA, N.P., red.kart; FIL'GUS, Z.Kh.,
 red.kart; SHAPIRO, Ye.M., red.kart; SHISHKIN, Ye.A., red.kart; YASHU-
 NICHKINA, Ye.G., red.kart. V razrabotke kart prinimali uchastiye:
 ALISOV, B.A., prof.; BERZINA, M.Ya.; VASILEVSKIY, L.I.; GAVRILOVA,
 S.A., kand.geograf.nauk; GINZBURG, G.A., kand.tekhn.nauk; DOBOSHINSKAYA,
 I.B.; YEVSTIGNEYEVA, A.I.; LAVRENKO, Ye.M., prof.; LOZINOVA, V.M., kand.
 tekhn.nauk; MILANOVSKIY, Ye.Ye., kand.geologo-mineral.nauk; MIKHAYLOV,
 A.A., prof.; MYSHKIN, Ye.P.; PUZANOVA, V.F., kand.geograf.nauk;
 (Continued on next card)

SEMENOV, A.I.---(continued) Card 2.

ROZOV, N.N., prof.; SMIRNOV, D.I.; TARASOV, A.P.; TROFIMOVSKAYA, Ye.A., kand.geograf.nauk; TUGOLESOV, D.A., kand.geologo-mineral.nauk. ZININ, I.F., tekhn.red.

[Geographical atlas for secondary school teachers] Geograficheski atlas; dlia uchitelei srednei shkoly. Izd.2. Moskva, Glav.upr. geodezii i kartografii MVD SSSR, 1959. 191 p. (MIRA 12:11)

1. Predstavitel' Nauchno-issledovatel'skogo instituta metodov obucheniya Akademii pedagogicheskikh nauk RSFSR (for Zaslavskiy).
2. Predstavitel' Upravleniya shkol Ministerstva prosvyashcheniya RSFSR (for Tutochkina). 3. Chleny-korrespondenty AN SSSR (for Lavrenko, Mikhaylov).

(Maps)

DRIATSKAYA, E.M., otv.red.; SHUROV, S.I., red.; BASHLAVINA, G.N., red.;
VORONINA, A.N.; GUREVICH, I.V., red.; ZASLAVSKIY, I.I., red.;
KOZLOV, F.M., red.; LARIN, D.A., red.; RAUSH, V.A., red.;
SAMOYLOV, I.I., red.; SLAIKOVA, Ye.A., red.; STROYEV, K.F., red.;
SCHASTNEV, P.N., red.; ~~TUTOCHKINA, V.A., red.~~; ERDELI, V.G., red.

[Geography atlas for the sixth grade] Geograficheskii atlas dlia
6-go klassa. Moskva, 1958. 32 p. (MIRA 12:9)

1. Russia (1923- U.S.S.R.) Glavnoye upravleniye geodezii i
kartografii. 2. Nauchno-redaktsionnaya kartosostavitel'skaya
chast' Tsentral'nogo nauchno-issledovatel'skogo instituta
geodezii, aeros"yemki i kartografii.
(Maps)

SAFRONOVA, V.A., otv.red.; SHUROV, S.I., red.; BASHLAVINA, G.N., red.;
VORONINA, A.N., red.; GUREVICH, I.V., red.; ZASLAVSKIY, I.I.,
red.; KOZLOV, F.M., red.; LARIN, D.A., red.; RAUSH, V.A., red.;
SAMOYLOV, I.I., red.; SLADKOVA, Ye.A., red.; STROYEV, K.F., red.;
SCHASTNEV, P.N., red.; TUTOCHKINA, Y.A., red.; ERDEL', V.G., red.;
DYUZHEVA, A.M., red.kart; POLYANSKAYA, L.A., red.kart

[Geographical atlas of the U.S.S.R. for the seventh grade] Geogra-
ficheskiy atlas SSSR dlia 7-go klassa. Moskva, 1958. (MIRA 12:5)

1. Russia (1923- U.S.S.R.) Glavnoye upravleniye geodezii i karto-
grafii. 2. Nauchno-redaktsionnaya kartosostavitel'skaya chast'
Glavnogo upravleniya geodezii i kartografii Ministerstva vnutrennikh
del SSSR (for all except Dyuzheva, Polyanskaya).
(Atlases)

TUTOCHKINA, V.A.

MEKLER, M.M., otvetstvennyy red.; BASHLAVINA, G.N., red.; VORONINA, A.N., red.;
GUREVICH, I.V., red.; ZASLAVSKIY, I.I., red.; KOZLOV, F.M., red.;
LARIN, D.A., red.; RAUSH, V.A., red.; SAMOYLOV, I.I., red.;
SLADKOVAYA, Ye.A., red.; STROYEV, K.F., red.; SHCHASTNEV, P.N., red.;
TUTOCHKINA, V.A., red.; SHUROV, S.I., predsedatel', red.; ERDELI,
V.G.

[Geographical atlas for the fifth grade] Geograficheskii atlas dlia
5-go klassa. Moskva [1957] 16 p. (MIRA 11:7)

1. Russia (1923- U.S.S.R.) Glavnoye upravleniye geodezii i
kartografii.
(Maps)

TUTOCHKINA, V.A.

Indoctrination problems in geography teaching. Geog. v shkole 20
no.1:1-7 Ja-F '57. (MIRA 10:3)
(Geography--Study and teaching)

TUTOCHKINA, V.A.

Geography notebooks. Geog. v shkole 18 no.6:30-32 N-D '55. Geog.
v shkole 18 no.6:30-32 N-D '55. (MLRA 9:1)

1. Konsul'tant-metodist Glavnogo upravleniya shkol Ministerstva
prosveshcheniya RSFSR.
(Geography--Study and teaching)

TUTOCHKINA, V.A.

Programs in geography for the 1954/1955 school year. Geog.v
shkole no.6:45-51 N-D '54. (MLRA 8:1)

1. Konsul'tant-metodist Glavnogo upravleniya shkol Ministerstva
prosveshcheniya RSFSR.
(Geography--Study and teaching)

TUTOCHKINA, V.A.; PANFILOVA, T.S.; YEFIMOVA, A.A.

Teaching geography during the 1953/1954 school year. Geog.v shkole no.5:
1-6 S '53. (MLBA 6:8)

(Geography--Study and teaching)

TUTOCHKINA, V.A.

Teaching geography in the 1956/1957 school year. Geog. v shkole 19
no.4:1-5 J1-Ag '56. (MIRA 9:10)

(Geography--Study and teaching)

TUTOCHKINA, V.A.

New tasks in teaching geography. Geog.v shkole 18 no.5:25-28 S-0
'55. (MIRA 8:12)

1. Konsul'tant-metodist Upravleniya shkol Ministerstva prosveshche-
niya RSFSR

(Geography--Study and teaching)

SAFRONOVA, V.A., otv.red.; SHUROV, S.I., red.; BASHLAVINA, G.N., red.;
VORONINA, A.N., red.; GUREVICH, I.V., red.; ZASLAVSKIY, I.I., red.;
KOZLOV, F.M., red.; LARIN, D.A., red.; RAUSH, V.A., red.; SAMOYLOVA,
I.I., red.; SLADKOVA, Ye.A., red.; STROYEV, K.F., red.; SCHASTNEV,
P.N., red.; TUTOCHKINA, V.A., red.; ERDELI, V.G., red.; DYUZHEVA,
A.M., red.kart; POLYANSKAYA, L.A., red.kart

[Geographical atlas of the U.S.S.R. for the seventh grade] Geogra-
ficheskiy atlas SSSR dlia 7-go klassa. Moskva, 1960. 31 col.maps.
(MIRA 14:3)

1. Russia (1923- U.S.S.R.) Glavnoye upravleniye geodezii i karto-
grafii.

(Russia--Maps)

TUTOLMIN, A. G

"Clinical Forms of Opisthorchosis", Med. Paraz. i Paraz. Bolez., Vol. 17, No. 2,
pp 106-13, 1948.

GLUKHOV, P.P., nauchn. sotr.; MUKHACHEV, B.I., nauchn. sotr.;
TSYBYKTAROVA, D.S., nauchn. sotr.; LEBEDEV, V.S., kand.
ist. nauk, glav. red.; GOVORKOV, A.A., kand. ist. nauk,
red.; TUTOLMINA, O.N., kand. ist. nauk, red.;
CHERNYSHEVA, V.I., red.; SHARAPOV, V.A., nauchn. sotr.;
red.; SIMKHO, Kh.S., red.

[The working class' effort for the reconstruction and
development of Far Eastern industry, 1922-1925; collection
of documents and materials] Bor'ba rabocheho klassa za
vosstanovlenie i razvitie promyshlennosti Dal'nevostochnoi
oblasti (1922-1925 gg.); sbornik dokumentov i materialov.
Khabarovsk, Khabarovskoe knizhnoe izd-vo, 1962. 412 p.
(MIRA 17:9)

1. Zaveduyushchaya arkhivnym otdelom Khabarovskogo Krayevogo
ispolnitel'nogo komiteta (for Chernysheva). 2. TSentral'nyy
gosudarstvennyy arkhiv RSFSR Dal'nego Vostoka (for Sharapov).

ITOL'INA, V. G., BIKHOVSKII, S. I., ...

"Experience of silicosis prevention in the Kizelov coal basin."

report submitted at the 13th All-Union Congress of Hygienists, Epidemiologists
and Infectionists, 1959.

NOSA, M.I.; TUTOR, V.S., inzh.-inspektor

Boring bar for boring crank bearings. Mekh.sil'.hosp. 10
no.11:20 N '59. (MIRA 13:3)

1. Direktor Terebovlianskoy remontno-tekhnicheskoy stantsii,
Ternopol'skoy oblasti(for Nosa).
(Bearings(Machinery))

Distr: 4E20(j)

Transformations and structural rearrangements of nitro derivatives of *o*- and *p*-nitrophenol to dyes. Tils Matich, Elena Corca, and Marci Tutoreanu. *Act. rep. Populare Romine, Filiala Iasi, Seria chimie, chim.*, 7, 215-22 (1956).—Through the action of H_2SO_4 (d. 1.84) at 140-8° *o*- and *p*- $O_2NC_6H_4OH$ undergo structural rearrangement similar to that undergone by 1,5- $C_6H_4(NO_2)_2$ in the formation of naphthazarin and by 1,5-dinitroanthraquinone in the formation of polyoxyanthraquinone. 2,4,5,4-Tetrahydroxy-2-oxo-5-oximinobiphenyl was obtained from *o*- $O_2NC_6H_4OH$ and the products are good dyes. J. H.

5
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TUTORSKAYA, I. B.

DELETED

96.3/2

C' 1962

ORGANIC CHEMISTRY

SEE ILC

TUTORSKAYA, N.N.

Effect of small additions of titanium in aluminum bronze. Trudy
Giprotsetmetobrabotka no.18:37-45 '60. (MIRA 13:10)
(Aluminum bronze) (Titanium)

27922

S/123/61/000/017/005/024
A004/A101

18 1220

AUTHOR: Tutorskaya, N. N.

TITLE: The effect of small titanium additions on aluminum bronze

PERIODICAL: Referativnyy zhurnal, Mashinostroyeniye, no. 17, 1961, 17, abstract
17A123 ("Tr. Gos. n.-i. i proyekt. in-ta po obrabotke tsvetn. met.",
1960, no. 18, 37-45)

TEXT: The author studied the effect of small Ti-additions on the structure
and mechanical properties of aluminum bronze. It was found that an addition of
0.005 - 0.3% Ti practically does not increase the mechanical properties of the
investigated alloys in the cast state. An addition of 0.05% Ti to the bronze
grades БРА7 (BR.A7), БРАМ₄9-2 (BR.AMts9-2) and БРАХ 9-4 (BR.AZh9-4)
noticeably increases their ductility in the embrittlement zone.

[Abstracter's note: Complete translation]

Card 1/1

TUTORSKAYA, N.N.

137-58-5-10686

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 5. p 259 (USSR)

AUTHORS: Shpagin, A.I., Tutorskaya, N.N.

TITLE: Replacement of Tin Bronze by Ferrous Metals in Sprinkler
Manufacture (Zamena olovyanistoy bronzy chernymi metallami
pri izgotovlenii sprinklerov)

PERIODICAL: Byul. tsvetn. metallurgii, 1957, Nr 18, pp 26-28

ABSTRACT: A new sprinkler design is suggested, the parts of which may
be made of St 2 steel instead of expensive tin bronze. The
sprinkler housing is made by drop forging with subsequent
application of protective coatings.

I. B.

1. Sprinklers--Design 2. Metals--Effectiveness

Card 1/1

ТУГОСКОЯА, Н.Н.

SHPAGIN, A.I.; TUFORSKAYA, N.N.

Replacing tin bronze by ferrous metals for the manufacture of
sprinklers. Biul.TSIIN tsvet.met. no.18:26-28 '57. (MIRA 11:5)
(Sprinklers) (Bronze) (Steel)

ACC NR: AP7004790

SOURCE CODE: UR/0413/67/000/001/0125/0126

INVENTOR: Tutorskaya, N. N.; Chernov, O. V.; Podvigina, O. P.;
Koroleva, S. P.

ORG: none

TITLE: Alloy for brazing zirconium. Class 49, No. 190178 [announced
by State Scientific Research and Design Institute of Alloys and Non-
Ferrous Metals Processing (Gosudarstvennyy nauchno-issledovatel'skiy i
proektnyy institut splavov i obrabotki tsvetnykh metallov)]

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 1,
1967, 125-126

TOPIC TAGS: brazing alloy, copper^{brazing}, palladium^{containing} alloy, zirconium containing
alloy, titanium containing alloy, metal brazing

ABSTRACT: This Author Certificate introduces an alloy containing copper and palladium
for brazing zirconium. To improve the quality of brazed joints, zirconium
is added to the alloy. In a variant, components of the alloy are set as
follows: palladium 19—20%, zirconium 3—4.5%, copper balance; in alloy
containing 17—20% palladium, and 2—3% zirconium, 1.0—1.5% titanium is
added (copper balance). [AZ]

SUB CODE: 11,13/ SUBM DATE: 20 June 64/ ATD PRESS: 5117

Card 1/1

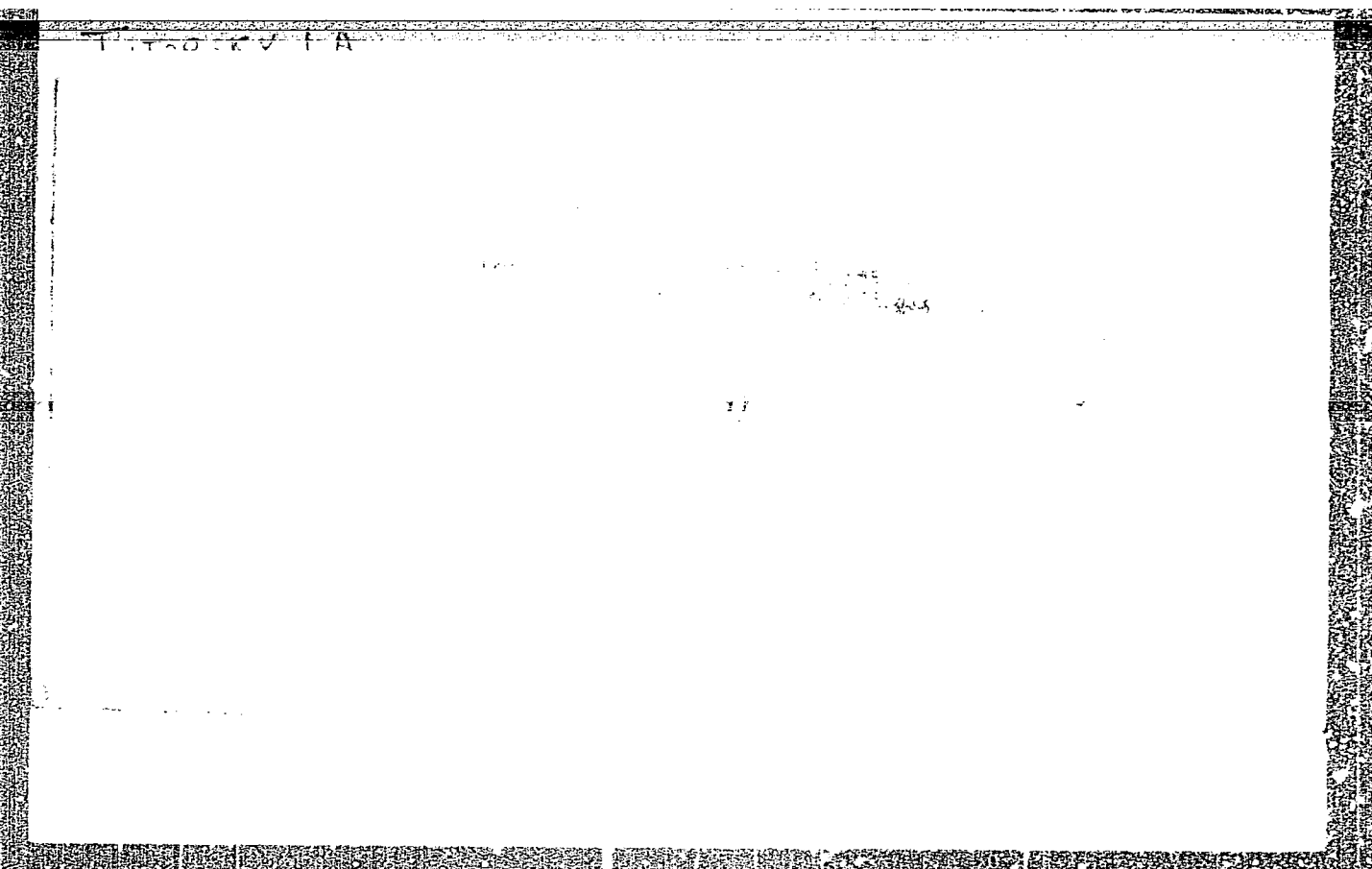
UDC: 621.791.36

DOGADKIN, B.; MLADENOV, Iv.; TUTORSKI, I.

Changes in the carbonyl-containing butadiene-styrolene rubbers and their mixtures with ϵ -caprolactam under the action of gamma rays. Godishnik khim tekhn 7 no.1/2:51-63 '60 [publ. '61].

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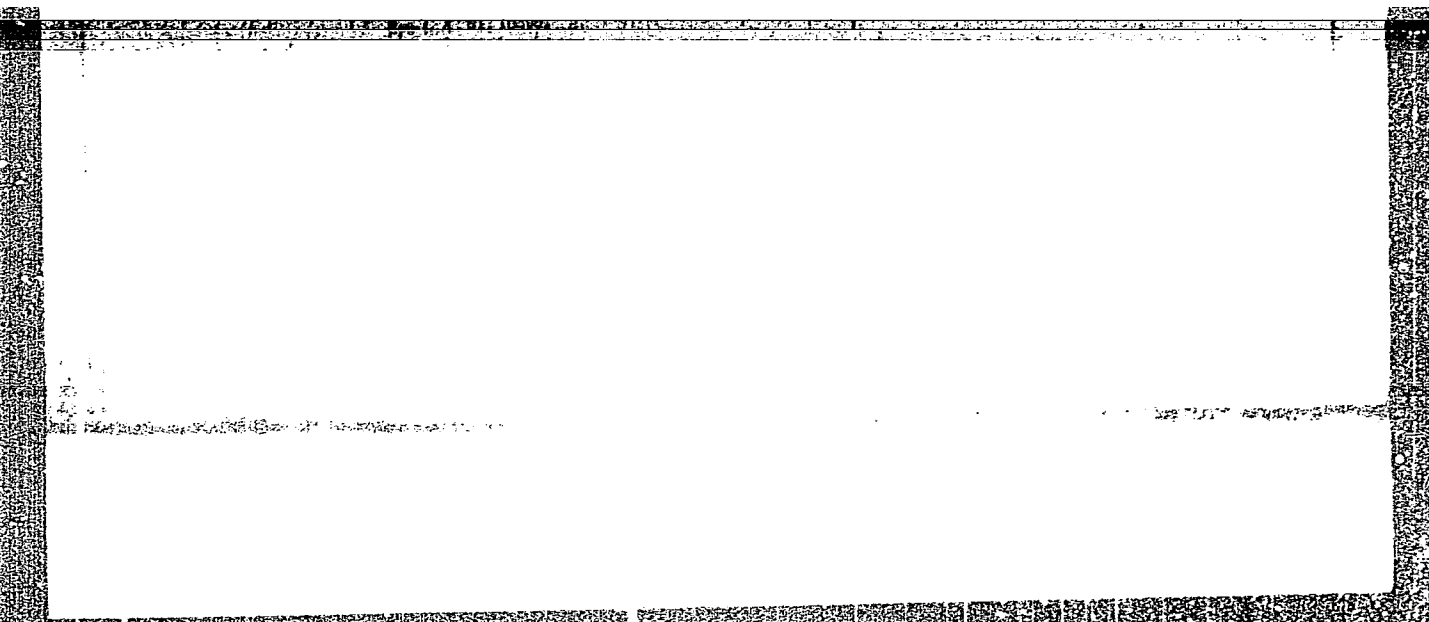
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RECORDS OF THE DEPARTMENT OF THE ARMY
OFFICE OF THE ADJUTANT GENERAL
WASHINGTON, D.C. 20315
1. NAME
2. GRADE
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ing S with mercaptobenzothiazole in sealed ampules to 140°
failed to produce H.S. exchange of S does take place here

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CIA-RDP86-00513R001757620008-5"

B/007/62/000/002/004/012
D204/D307

AUTHORS: Dogadkin, B., Mladenov, I. and Tutorskiy, I.

TITLE: On the changes in carboxyl-containing butadiene-styrene rubbers and their mixtures with ϵ -caprolactam under the action of γ -rays

PERIODICAL: Referativnyy byulleten' Bolgarskoy nauchnoy literatury, Khimiya i khimicheskaya tekhnologiya, no. 2, 1962, 6, abstract 102, God. Khim.-tekhnol. inst. 6, 1960, book 1 and 2, 1961 (Dep. 1962), pp 51-63 (Rus. and Eng. summaries)

TEXT: Carboxyl-containing butadiene-styrene rubbers were γ -irradiated from a Co^{60} source with doses of 0.1 - 50 megaröntgens. Losses of carboxylic groups were determined, particularly at low doses. This process occurs as a result of a complex structurization mechanism which is also accompanied by some destruction. A linear relation exists between the amount of carboxylic groups lost and the radiochemical yield. During the irradiation of a mixture of carboxy-

Card 1/2

On the changes ...

B/007/62/000/002/004/012
D204/D307

late rubber with ϵ -caprolactam, addition of the ϵ -caprolactam to the rubber is observed (along the bonded nitrogen). The plot of the amount of caprolactam added on at various doses of radiation exhibits a maximum. This is ascribed to destruction of bonded ϵ -caprolactam, with evolution of nitrogen.

[Abstracter's note: Complete translation]

Card 2/2

"APPROVED FOR RELEASE: 04/03/2001

CIA-RDP86-00513R001757620008-5

APPROVED FOR RELEASE: 04/03/2001

CIA-RDP86-00513R001757620008-5"

AUTHORS: Dogadkin, B.A.; Tutorskiy, I.A.

69-20-3-4/24

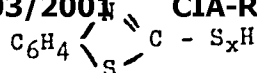
TITLE: The Mechanism of Vulcanization in the Presence of 2-Mercapto-
benzothiazole (Mekhanizm vulkanizatsii v prisutstvii 2-mer-
kaptobenzotiazola)

PERIODICAL: Kolloidnyy zhurnal, 1958, vol XX, Nr 3, pp 279-287 (USSR)

ABSTRACT: One of the most-widely used accelerators of vulcanization is
mercaptobenzothiazole (MBT), named also kaptaks. The mecha-
nism of its action has been studied in the article. In the
interaction of MBT and sulfur in the temperature range
140-180°C, H₂S develops. The energy of the activation pro-
cess is 33.5 kcal/mole. This value is so high that the men-
tioned reaction cannot be regarded as the principal vulcani-
zation reaction. One of the intermediate, formed in the
vulcanization process is a polysulfide of the composition:

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which has been extracted from the mixture by isotope exchange
and identified by elementary analysis and spectroscopy.
During heating in the press at vulcanization temperatures,
MBT does not combine with the rubber. MBT reacts with rubber

69-20-3-4/24

The Mechanism of Vulcanization in the Presence of 2-Mercaptobenzothiazole

only in the presence of sulfur during the vulcanization process. The activation energy of the addition of sulfur to natural rubber without an accelerator, and in the presence of MBT at the temperature range of 120-160°C, is 35.5 and 20.95 kcal/mole respectively. It is supposed that the mechanism of the accelerating action of MBT is determined by the formation of 2-thiobenzothiazolyl and persulfhydryl radicals. There are 14 graphs and 23 references, 15 of which are Soviet, 3 English, 2 American, 2 German, and 1 Czechoslovakian.

ASSOCIATION: Institut tonkoy khimicheskoy tekhnologii imeni M.V. Lomonosova
(Institute of Fine Chemical Technology imeni M.V. Lomonosov)

SUBMITTED: March 2, 1958

Card 2/2 1. Vulcanization—Methods 2. 2-Mercaptobenzothiazole—Applications

TUTORSKIY, I.A.; SMELYY, Z.; DOGADKIN, B.A.

Interaction between carboxylated rubber and ϵ -caprolactam.
Vysokom.soed. 1 no.11:1652-1654 N '59. (MIRA 13:5)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii imeni
M.V. Lomonosova.
(Rubber) (Hexamethylenimine)

1. The first part of the document is a list of the names of the persons who were present at the meeting.

2. The second part of the document is a list of the names of the persons who were present at the meeting.

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CIA-RDP86-00513R001757620008-5"

TUTORSKIY, I. A., DOGADKIN, B. A. and MLADENOV, I. (USSR)

O prevrashcheniyakh karboksilsoderzhashchikh butadienstirolnykh
kautchukov i ikh smesei s epsilon-kaprolaktamom pod deistviem
gamma-izlucheniya
Gamma-ray induced reactions of carboxylated butadiene-styrene
rubbers and their mixtures with epsilon-caprolactam
IUPAC S III:293-301

report presented at the Intl. Symposium on Macromolecular Chemistry, Moscow,
14-18 June 60.

TUTORSKIY, I. A.

PHASE I BOOK EXPLOITATION

SOV/AS84

International symposium on macromolecular chemistry. Moscow, 1960.

Mezhnatsionnyy simpozium po makromolekulyarnoy khimii SSSR, Moskva, 14-18 iyunya 1960 g.; doklady i avtoreferaty. Sektsiya III. (International Symposium on Macromolecular Chemistry Held in Moscow, June 14-18, 1960; Papers and Summaries) Section III. [Moscow, Izd-vo AN SSSR, 1960] 469 p. 55,000 copies printed.

Tech. Ed.: P. S. Kashina.

Sponsoring Agency: The International Union of Pure and Applied Chemistry. Commission on Macromolecular Chemistry.

PURPOSE: This book is intended for chemists interested in polymerization reactions and the synthesis of high molecular compounds.

COVERAGE: This is Section III of a multivolume work containing papers on macromolecular chemistry. The articles in general deal with the kinetics of polymerization reactions, the synthesis of special-purpose polymers, etc., ion exchange resins, semiconductor materials, etc., ion exchangers, polymerization reactions, properties, methods of catalyzing polymerization reactions, properties, and chemical interactions of high molecular materials, and the effects of various factors on polymerization and the degradation of high molecular compounds. No personalities are mentioned. References given follow the articles.

Umanov, Kh. V., U. N. Musayev, and R. S. Tilyayev (USSR). The Radiation Method of Copolymerizing Acrylonitrile With Polyethylene and Perchlorovinyl	170
Barikov, S. R., G. M. Chelchokova, I. V. Zhuravleva, and P. M. Gribkova (USSR). Grafting of Carbochain and Hetero-chain Polymers	184
Santo, I., and K. Gál (Hungary). Grafting Methyl Methacrylate Onto Films of Polyvinyl Alcohol Under the Action of X-Rays	207
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AUTHORS: Dogadkin, B. A., Mladenov, I., Tutorskiy, I. A.

TITLE: Conversions of Carboxylated Butadiene-styrene Rubbers
Under the Action of Gamma Radiation ¹⁵

PERIODICAL: ¹⁹ Vysokomolekulyarnyye soyedineniya, 1960, Vol. 2, No. 2,
pp. 259-264

TEXT: Carboxylated butadiene-styrene rubber with 30% of styrene, 1.30 and 1.60% of methacrylic acid; 50% of styrene and 2.88 or 5.43% of methacrylic acid were irradiated as 0.5 mm thick films in an argon atmosphere with 0.05% of oxygen from a Co⁶⁰ source of the type K-20 (K-20), with 0.1 - 50 Mr. The following were determined on the irradiated samples: number of the remaining carboxyl groups (Fig. 1, Table 1); gel content (Fig. 2, Table 2); viscosity of the brine fraction (Fig. 3); maximum swelling in benzene or methylethylketone (Fig. 4); and the formation of cross-links (Fig. 5, Table 3). The results are as follows: Under the effect of gamma radiation a loss of carboxyl groups occurs,

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Conversions of Carboxylated Butadiene-styrene
Rubbers Under the Action of Gamma Radiation

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which is particularly heavy with a small radiation dose. The connection observed between the quantities of gel formed and carboxyl groups consumed indicates a complicated process of structure formation and destruction. The latter is seen in a decrease, especially rapid with small doses, of viscosity of the brine fraction. Intensive interlacing is caused by raising the methacrylic acid content. There is a linear relation between the number of carboxyl groups and the number of cross-links formed. The number of cross-links calculated from the data of the swelling agrees well with radiation doses of up to 20 Mr with the number calculated from the carboxyl groups consumed. There are 5 figures, 3 tables, and 6 references: 3 Soviet and 3 US.

ASSOCIATION: Moskovskiy institut tonkoy khimicheskoy tekhnologii
(Moscow Institute of Fine Chemical Technology)

SUBMITTED: November 12, 1959

Card 2/2

TUTORSKIY, I.A.; NOVIKOV, S.V.; DOGADKIN, B.A.

Peculiar features of the kinetics of chemical reactions of macromolecular compounds. Usp. khim. 35 no.1:191-199 Ja '66.

(MIRA 19:1)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii imeni M.V. Lomonosova.

TUTORSKIY, I.A.; NOVIKOV, S.V.; DOGADKIN, B.A.

Certain characteristics of the mechanism of chemical
reactions of diene polymers: Zhur. fiz. khim. 39 no.9:
2157-2162 S '65. (MIRA 18:10)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii
imeni M.V. Lomonosova.

L 42987-66 EWT(π)/EWP(j) IJP(c) RM/JND

ACC NR: AP6013274 (A) SOURCE CODE: UR/0413/66/000/008/0078/0078

INVENTOR: Dogadkin, B. A.; Tutorskiy, I. A.; Shvarts, A. G.; Potapov, Ye. E.; Frolikova, V. G.

ORG: none

3⁰B

TITLE: Method of modifying rubber. Class 39, No. 180790

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 8, 1966, 78

TOPIC TAGS: natural rubber, synthetic rubber, aminophenol, hydroxy compound, aromatic hydroxy compound, rubber modification

ABSTRACT: An Author Certificate has been issued for a method of modifying natural and synthetic rubbers by introducing hexamethylenetetramine and aromatic hydroxy compounds into the mixture. To improve the physical and mechanical properties of the rubber, aminophenols are used as an aromatic hydroxy compound. [Translation] [NT]

SUB CODE: 11,07/ SUBM DATE: 09Jan65/

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UDC: 678.4.7.046-9:547.564.4

L 02140-67 EWT(m)/EWP(j)/T IJP(c) WW/RM

ACC NR: AP6035961

SOURCE CODE: UR/0074/66/035/001/0191/0199

AUTHOR: Tutorskiy, I. A., Novikov, S. V. and Dogadkin, B. A., Moscow Institute of Fine Chemical Technology im. M. V. Lomonosov (Moskovskiy Institut tonkoy khimicheskoy tekhnologii)

TITLE: Kinetic characteristics of chemical reactions of high molecular compounds

SOURCE: Uspekhi khimii, v. 35, no. 1, 1966, 191-199

TOPIC TAGS: chemical kinetics, macromolecular chemistry

ABSTRACT: The study of the kinetic characteristics of homogeneous macromolecular reactions is attracting the steady attention of researchers. The interest in this area is brought about by the search for ways to control chemical transformations of polymers and to conduct controlled reactions to obtain chemical derivatives with desired properties. Comparing the kinetic parameters of functional groups included in the polymer chain with the analogous parameters of those same groups in low molecular compounds, one can assume a number of factors which reduce the pre-exponential numbers of the Arrhenius equation in the case of large molecules. First, it follows from the kinetic theory that with an increase in the size (mass) of the molecule the Brownian motion rate of the molecule is lowered. Second, the high viscosity of polymeric solutions reduces the number of collisions of reacting groups.

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Third, the steric factor is high because of shielding of functional groups as a result of folding of the polymeric chains. With the regular succession of the functional groups in the polymer chain, the interaction of neighboring groups can reflect the activation energy. This review is devoted to explaining the effect of the factor of including functional groups in the polymeric chain and of the interaction of alternated functional groups on the kinetic parameters of macromolecular reactions. Orig. art. has: 4 tables. /JPRS: 31,177/

SUB CODE: /SUBM DATE: none / ORIG REF: 007 / OTH REF: 041

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ACCESSION NR: AP3003795

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authors claim that a superior vulcanized polymer is obtained which possesses a higher temperature of plastic flow as well as greater strength, which is attributed to a chemical process where the hydrocarbon end of BPF becomes linked to the original vulcanized rubber material. Orig. art. has: 1 chart and 1 table.

ASSOCIATION: Moskovskiy institut tonkoy khimicheskoy tekhnologii im. M. V. Lomonosova, vsesoyuznyy nauchno-issledovatel'skiy institut plenochmy*kh materialov i iskusstvennoy kozhi (Moscow Institute of Fine Chemical Technology, All-Union Scientific Research Institute of Laminated Materials and Synthetic Leather)

SUBMITTED: 03Jan61

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SUB CODE: CH

NO REF SOV: 001

OTHER: 001

Card 2/2

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B004/B060

11 2210

AUTHORS: Yoyutakiy, S. S.; Vakula, V. I.; Smelaya, H. I.,
Tutorskiy, I. A.

TITLE: Adhesion of Polymers. VII. Adhesion of Carboxylated Polymers
to Different Types of Substrates

PERIODICAL: Vysokomolekulyarnyye soyedineniya, 1960, Vol. 2, No. 11,
pp. 1671 - 1677

TEXT: The authors studied the effect of the carboxyl group on the adhesion of styrene rubbers to polar polyamide (Perfol type PK-4) and to nonpolar polyethylene. In tire cord impregnated with carboxylated butadiene-styrene latex a stronger bond was observed between rubber and cord than is provided by impregnation with ordinary butadiene-styrene latex. The joint between copolymer and substrate was prepared by a method described in Ref. 10. The quantitative determination of adhesion was made at room temperature and a constant separation rate of 0.3 cm/sec by means of an "adhesiometer" of TANI-KZ. Resistance in g/cm (opposed by the joint to separation) was taken as the measure of adhesion. 1) The effect of the

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Adhesion of Polymers. VII. Adhesion of Carboxylated Polymers to Different Types of Substrates

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carboxyl group content on adhesion to polyamide was first examined on butadiene-styrene rubber with 1.25, 3.5, and 7% methacrylic acid, the result being shown by Fig. 1.

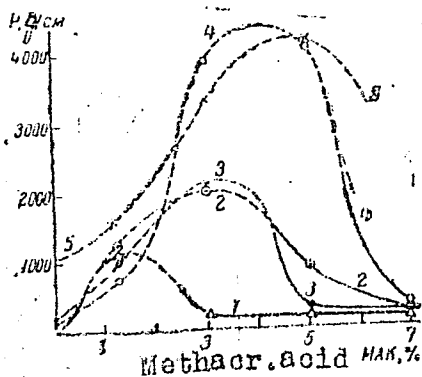


Fig. 1: Resistance P to separation of joint between polyamide and copolymer of butadiene with styrene and methacrylic acid at 30% styrene content and varying methacrylic acid content
1, initial joints; 2, joints after 30-min heating up to 75°C ; 3, heat treatment up to 100°C ; 4, to 125°C ; 5, to 125°C .

A second series of measurements was made (at 30% styrene content) with methacrylic acid content between 0 - 10%; Fig. 3.

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